UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

ECOLOGICAL SITE DESCRIPTION

ECOLOGICAL SITE CHARACTERISTICS

Site Type: Rangeland

Site Name: Salty Bottomland (SD-2, & 3)

Site ID: R042XB033NM

Major Land Resource Area: 042 - Southern Desertic Basins, Plains, and Mountains

Physiographic Features

This site occupies drainageways and floodplains and is commonly subject to overflow, both from within the drainageway and from surrounding upland sites. Flooding often results in water standing for several hours, or even a day, and the opportunity for relatively deep wetting is the principal feature of such flooding. Slopes are relatively uniform and usually do not exceed 2 percent. Elevations range from 3,700 to 5,000 feet.

Land Form: (1) Drainageway
(2) Flood plain

	Minimum	Maximum
Elevation (feet):	3700	5000
Slope (percent):	0	2
Water Table Depth (inches):	42	72
Flooding:		
Frequency:	Rare	Frequent
Duration:	Very brief	Long
Ponding:		
Depth (inches):	1	6
Frequency:	Rare	Occasional
Duration:	Very brief	Brief
Runoff Class:	Negligible	Very low
Aspect:		

Climatic Features

Annual average precipitation ranges from 8 to 10.5 inches. Wide fluctuations from year to year are common, ranging from a low of abut 2 inches to a high of over 20 inches. At least one-half of the annual precipitation comes in the form of rainfall during July, August, and September. Precipitation in the form of snow or sleet averages less than 4 inches annually. The average annual air temperature is about 61 degrees F. Summer maximums usually exceed 100 degrees F., and winter minimums can go below zero. The average frost-free season exceeds 200 days and extends from April 1 to November 1. Both the temperature regime and rainfall distribution favor warm-season perennial plants on this site. Spring moisture conditions are only occasionally adequate to cause significant growth during this period of the year. High winds from the west and southwest are common from March to June, which further tends to create poor soil moisture conditions in the springtime.

	Minimum	Maximum
Frost-free period (days):	179	212
Freeze-free period (days):	200	233
Mean annual precipitation (inches):	8.0	10.5

Monthly precipitation (inches) and temperature (°F):

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Precip. Min.	0.37	0.36	0.23	0.18	0.29	0.57	1.42	1.92	1.53	1.01	0.48	0.57
Precip. Max.	0.54	0.39	0.27	0.36	0.45	0.64	1.9	2.2	1.66	1.07	0.58	0.78
Temp. Min.	20.8	25.5	31.2	38.0	46.4	54.3	61.1	59.1	51.5	39.8	28.8	22.3
Temp. Max.	58.1	63.8	71.0	79.3	87.4	96.4	95.5	92.7	87.5	78.7	67.2	58.8

Climate Stations:
(1) NM3855, Hatch. Period of record 1961 - 1990
(2) NM8387, Socorro. Period of record 1961 - 1990

Influencing Water Features

This site is not influenced by water from wetlands or streams.

Wetland Description:	System	Subsystem	Class
(Cowardin System)			

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Representative Soil Features

The soils are moderately deep to deep, usually with clay, clay loam or silty clay loam surfaces. They are saline and/or alkali affected and are commonly flooded. Water intake rates arre moderate to very slow, and water-holding capacity is medium to high

Predominant Parent Materials:
Kind: Alluvium
Origin: Mixed-igneous-metamorphic & sedimentary

Surface Texture:	(1)	Clay
	(2)	Clay loam
	(3)	Silty clay loam
Subsurface Texture Group:		Clayey
Surface Fragments <=3" (% Cover):		0
Surface Fragments > 3" (% Cover):		0
Subsurface Fragments <=3" (% Volume):		6
Subsurface Fragments > 3" (% Cover):		0
Drainage Class:		Poorly drained To Moderately well drained
Permeability Class:		Impermeable To Slow

	Minimum	Maximum
Depth (inches):	24	72
Electrical Conductivity (mmhos/cm):	0	32
Sodium Absorption Ratio:	N/A	N/A
Calcium Carbonate Equivalent (percent):	N/A	N/A
Soil Reaction (1:1 Water):	7.9	9.0
Soil Reaction (0.01M CaCl2):	N/A	N/A
Available Water Capacity (inches):	1.0	8.0

Plant Communities

Ecological Dynamics of the Site

Historic Climax Plant Community

The aspect of this site is that of a grassland having noticeable shrubs evenly distributed. This site is characterized by salt-tolerant grasses and shrubs such as alkali sacaton, giant sacaton, and fourwing saltbush. Additional species representative of the site at its potential may include vine-mesquite, tobosa, burrograss, and inland saltgrass. Other atriplex species, seepweed, and iodinebush may also be present in significant amounts.

Ground Cover (Average Percent of Surface Area).	
Grasses & Forbs	45
Bare ground	24
Surface gravel	1
Surface cobble and stone	0
Litter (percent)	30
Litter (average depth in cm.)	5

Plant Community Annual Production (by plant type):

	Annual Production (lbs/ac)		
Plant Type	Low	RV	High
Grass/Grasslike	1200	1800	2400
Forb	120	180	240
Tree/Shrub/Vine	180	270	360
Lichen			
Moss			
Microbiotic Crusts			
Totals	1500	2250	3000

Historic Climax Plant Community Plant Species Composition: Plant species are grouped by annual production **not** by functional groups.

Group	Grass/Grasslike Common Name	Scientific Name	Annual Production in Pounds Per Acre Low	High
1	alkali sacaton	Sporobolus airoides	788	900
2	giant sacaton	Sporobolus wrightii	113	225
3	tobosa	Pleuraphis mutica	113	225
4	vine-mesquite	Panicum obtusum	113	225
5	mat muhly inland saltgrass burrograss	Muhlenbergia richardsonis Distichlis spicata Scleropogon brevifolius	113	225
6	other grasses		113	225

Group	Shrub/Vine Common Name	Scientific Name	Annual Production in Pounds Per Acre Low	High
7	fourwing saltbush other atriplex species	Atriplex canescens Atriplex spp.	68	180
8	iodinebush	Allenrolfea occidentalis	68	113
9	winterfat	Krascheninnikovia lanata	0	68
10	sueda iva	Suaeda suffrutescens Iva spp.	23	113
11	other shrubs		0	23

Group	Forb Common Name	Scientific Name	Annual Production in Pounds Per Acre Low	High
12	desert holly Russian thistle threadleaf groundsel seepweed	Acourtia nana Salsola kali Senecio flaccidus Suaeda suffrutescens	68	10
13	other annuals		0	68
14	other perennials		23	113

Plant Growth Curve:
Growth Curve Number: NM2533
Growth Curve Name: Historic Climax Plant Community
Growth Curve Description: SD-2 Warm Season Plant Community

Percent Production by Month

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	0	5	10	10	25	30	15	5	0	0

Ecological Site Interpretations

Animal Community:

This site provides habitat which support a resident animal community that is characterized by pronghorn antelope, coyote, black-tailed jackrabbit, desert pocket gopher, sparrow hawk, scaled quail, Gambel's quail, loggerhead shrike, horned lark, meadowlark, lesser earless lizard, little striped whiptail lizard, Western spadefoot toad, and prairie rattlesnake.

Hydrology Functions:

The runoff curve numbers are determined by field investigations using hydraulic cover conditions and hydrologic soil groups.

Hydrologic Interpretations

Soil Series	Hydrologic Group
Pecos	D
Mimbres	C
Verhalen	D
Arno	D
Belen	C
Mead	D
Cottonwood	C
Reeves	C
Balmorhea	C

Recreational Uses:

Suitability for camping and picnicking is fair to poor limited mostly by weather extremes and potential flooding. Hunting is fair for pronghorn antelope, quail, dove, small game, and waterfowl where seasonal open water occurs. Photography and bird watching can be fair to good, especially during migration seasons. Most small animals of the site are nocturnal and secretive, seen only at night, early morning or evening.

Wood Products:

This site has no significant value for wood products.

Other Products:

This site is suitable to grazing in all seasons of the year, although the vast majority of the forage palatable to livestock is produced in the summer months and is most effectively used at that time. The site is adapted for grazing by cattle and horses, generally without regard to class of animal. Cows with calves will probably do better than calves or yearlings when forage is greenest. The site is also suitable for grazing by sheep and goats.

Retrogression may be caused by gullying and draining as well as by grazing abuse. In either event, such plants as alkali sacaton, giant sacaton, and vine-mesquite are replaced by such plants as tobosa, burrograss, inland saltgrass, and seepweed. Mesquite may take over the site, while bare ground and annuals more nearly characterize its gullied and drained condition.

Other Information:	
Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month	
Similarity Index	Ac/AUM
100 - 76	2.3 – 3.0
75 – 51	2.8 – 3.7
50 – 26	3.5 – 6.8
25 – 0	6.8 - +

Plant Preference by Animal Kind:

	Code	**Species Preference**	**Code**
Stems	S	None Selected	N/S
Leaves	L	Preferred	P
Flowers	F	Desirable	D
Fruit/Seeds	F/S	Undesirable	U
Entire Plant	EP	Not Consumed	NC
Underground Parts	UP	Emergency	E
		Toxic	T

Animal Kind: Livestock

Animal Type: Cattle

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
alkali sacaton	Sporobolus airoides	EP	U	U	U	D	D	D	P	P	D	U	U	U
giant sacaton	Sporobolus Wrightii	EP	U	U	U	D	D	D	P	P	D	U	U	U
inland saltgrass	Distichlis spicata	EP	U	U	U	U	D	D	P	P	D	D	U	U
Vine mesquite	Panicum obtusum	EP	NC	NC	NC	NC	NC	NC	P	P	P	D	D	NC
tobosa	Pleuraphis mutica	EP	N/S	N/S	D	D	D	P	P	P	D	D	D	N/S
fourwing saltbush	Atriplex canescens	EP	P	P	P	P	P	D	D	D	D	D	P	P

Supporting Information

Associated Sites:

Site Name	Site ID	Site Narrative

Similiar Sites:

Site Name	Site ID	Site Narrative

State Correlation:
This site has been correlated with the following states:

Inventory Data References:

Data Source	Number of Records	Sample Period	State	County

Type Locality:

Relationship to Other Established Classifications:

Other References:
Data collection for this site was done in conjunction with the progressive soil surveys within the Southern Desertic Basins, Plains and Mountains, Major Land Resource Areas of New Mexico. This site has been mapped and correlated with soils in the following soil surveys. Sierra County Dona Ana County Grant County Hidalgo County Luna County Otero County

Characteristic Soils Are:	
Mimbres silty clay loam, alkali	Mimbres silty clay loam, strongly alkali
Glendale silty clay loam, alkali	Glendale silty clay loam, strongly alkali
Verhalen silty clay loam, alkali	Belen silty clay loam, alkali
Arno clay loam, saline	Pima clay loam, saline
Pecos silty clay loam, saline	Mead silt loam
Balmorhea loam, drained	
Other Soils included are:	

Site Description Approval:

Author	Date	Approval	Date
Don Sylvester	07/12/1979	Don Sylvester	07/12/1979

Site Description Revision:

Author	Date	Approval	Date
George Chavez	04/12/02	George Chavez	09/12/02